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ABSTRACT

A goals-based assessment program consistent with constructivist principles that is used to evaluate the effectiveness of the beginning teacher is described, and a prototype is presented that can be used in related settings. The constructivist view of learning sees the learner as actively involved in the construction of his or her own representations of knowledge. Such an approach implies a comprehensive view of assessment as a developmental process and the basis for instructional decision making. The teacher preparation program at South Dakota State University includes coursework organized in three professional semesters that include integrated coursework and practical experiences in local schools. Five instruments, including a portfolio assessment, were designed to assess multiple dimensions of student performance using constructivist approaches. Emphasis is placed on the achievement of significant outcomes, identified as program goals, by using a holistic, coherent, and multifaceted approach to the assessment of effective teaching through the five developed instruments. (Contains 23 references.) (SLD)

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# ASSESSING THE EFFECTIVENESS OF THE BEGINNING TEACHER FROM A CONSTRUCTIVIST PERSPECTIVE

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# Assessing the Effectiveness of the Beginning Teacher From a Constructivist Perspective*

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*Authors' note: The work represented in this paper is a result of the commitment of the faculty at South Dakota State University.

ABSTRACT

The purpose of this paper is to examine a goals-based assessment program consistent with constructivist principles that is used to evaluate the effectiveness of the beginning teacher. The process of developing this program will be outlined in this paper and it will provide the reader with a prototype of a program he/she can implement in related settings. Several unique instruments, both alternative and traditional in nature, were developed for the purpose of assessing the skills, knowledge, and professional development of pre-service teachers. Results indicate that coherence provided by this kind of system results in a more accurate picture of the competency of the beginning teacher.

## INTRODUCTION

All professional development programs, including those aimed at teacher education, can judge the capabilities of their graduates by identifying common criteria and then measuring performance in relation to those outcomes. Teacher preparation programs must first identify those common criteria and adopt the means by which these criteria can be achieved. This paper describes the process of creating an assessment structure designed to measure a constructivist-based program implemented in an undergraduate college of education at a midwestern state university and provides a model of the process. Assessments can be based on established standards and yet teacher educators can create unique assessment instruments and programs that maintain individual goals and identity.

## STANDARDS OF EXCELLENCE IN TEACHING

Recent statements of teacher effectiveness come from the National Board for Professional Teaching Standards (INSTASC, 1992). These include (1) Teachers are committed to their students and their learning, (2) Teacher know the subjects they teach and how to teach those subjects to students, (3) Teachers are responsible for managing and monitoring student learning (4) Teachers think systematically about their practice and learn from experience and (5) Teachers are members of learning communities. Concurrently, GOALS 2000 (1994) describes the need to prepare teachers who are capable of using effective practices as soon as they complete a preparation program. These practices, according to the commission that created the standards, include curricular decisions, instructional techniques, subject area expertise, knowledge of students abilities and development, professional development, and appropriate use of assessment techniques.

Other governing organizations concur on the characteristics necessary for success in the classroom. School systems, institutions of higher learning, and state associations have further defined essential skills that characterize excellence in teaching. The precise definition of these characteristics as they apply to

specific teacher education programs is left up to individual school districts, states certifying teachers, and institutions charged with educating the teaching professional. For example, the Chicago school district identified Teaching and Learning as critical elements in school reform (Consortium on Chicago School Research, 1994). Teachers in the Chicago system must be able to analyze student performance, attitudes, and aspirations, provide curriculum offerings, opportunities to learn, respond to student diversity, and instructional effectiveness. Texas has adopted a philosophy that focuses on learner-centered instruction. Expectations for teachers in this Texas system parallel the national board standards but the state uses its own philosophy as a unifying guide (Avila et. al, 1995). Perhaps the most comprehensive perspective of these state organizations has been implemented by the State of Kentucky Council on New Teacher Performance Standards (Kentucky Education Professional Standards Board, 1993). The Council recommended that the state standards board adopt teacher outcomes representing seven criteria including curriculum planning, assessment, professional development, instruction, collaboration, and management.

While each of the described organizations is interested in preparing, certifying, and hiring teachers qualified to handle the complexities of the profession, each does so by applying its individual view of education. Those of us in teacher preparation may not agree on a philosophy of teacher education as appropriate for all programs, but we do agree that common threads, as identified by various agencies outlined above, are necessary to educate quality teachers.

This agreement, however, does not necessarily extend to procedures to achieve the goals. Various recommendations about how to meet the standards have been made by national organizations charged with upgrading the profession of teaching. According to these recommendations, teacher educators need to keep the essential skills in mind and to concern themselves with techniques that have been successful. Their recommendations include a call for cohort groups and team learning, extensive opportunities for reflection, intensive internships, ongoing professional development, the ability to deal with the complexities of classroom interactions, and an upgraded and updated means of assessment (e.g. Wise, 1995, Darling-Hammond, 1994). Some difficulty however, arises in balancing the complex and holistic characteristics of effective teaching with the specific techniques useful in achieving overall competence. When a unifying concept is selected to organize all dimensions-the holistic and specific-of learning to teach, teacher education programs are more likely to be successful.

## CONSTRUCTIVIST VIEW OF TEACHING AND LEARNING

Good instruction and assessment built on valid theories of learning and cognition that consider the skills, knowledge and competencies of teachers will allow education students to construct a coherent view of teaching rather than a view that focuses on an assortment of skills that students perceive as peculiar to school success only (Herman, 1992). Teacher educators who adopt this cognitive view of learning and new forms of assessment that are more likely to engage in teacher education students in the task of learning teach. If teacher education students learn to apply the concepts of a constructivist view of learning, that approach becomes part of their own classroom practice (Aschbacher, 1992, Herman, 1992). Instruction within teacher education classes

should help students achieve the integrated and complex processes at which the new assessment techniques are aimed.

The constructivist view of learning which is supported by current literature is based on the paradigm of the learner as actively involved in the construction of his or her own representations of knowledge. Learning, in this view, is the process of building knowledge structures by connecting what is already known to new information, ideas, and concepts, and integrating them to form new understandings (e.g. Brooks & Brooks, 1993, Steinley, 1993, Lincoln, 1989). Learning is also essentially giving personal meaning to what is taught, and therefore the prior knowledge, accurate or not, that students bring to the classroom has a significant influence on their learning. This shift from the earlier behaviorist perspective that described learning as mastery of isolated facts and pieces of information to a description of learning as modifications to highly integrated schematic structures has significant implications for teaching and learning (Royer, Cisero & Carlo, 1993). Steinley (1993) states that constructivism is also a theory of teaching. What goes on in the classroom should make direct use of what is known about teaching and learning. The instructional implications of the constructivist view of teaching are clear: it is crucial that instructors help students make connections in their learning, to show how their ideas are formed and to represent them in ways that allow educators to assess their validity and accuracy. As learners become more expert, their knowledge structures become more connected and integrated, and more flexible. Attention to this kind of learning and assessment provides students with opportunities to develop higher level thinking skills and helps them develop strategies for learning (Van Sickle & Hoge, 1991).

## CONSTRUCTIVIST ASSESSMENT

The constructivist approach to learning implies a comprehensive view of assessment. When assessment is grounded in the context of constructivism, new forms of assessment should emphasize the role of the student in the process of representing his or her learning is emphasized. Those who are learning to teach must integrate new information with prior knowledge in ways that are meaningful and applicable to real world situations (Galluzzo, 1992). The constructivist view mandates that assessment be a developmental process, designed to identify prior knowledge and skills, diagnose strengths, needs, and difficulties, and to serve as the base for instructional decision-making ( Royer, Cisero & Carlo, 1993). This perspective will create a shift from an orientation of assessment as isolated measurement of skills toward an orientation that emphasizes the achievement of significant outcomes, and from an emphasis on unrelated components teaching to an emphasis on integrated essential knowledge. Assessment of teachers will move from accountability within individual classes to holistic, coherent, and multifaceted approach to programmatic assessment.

There are four reasons for this interest in changing assessment modes. According to Worthen (1993) the demands for accountability that became evident after national studies were completed in the 1980s resulted in renewed emphasis on teaching basic skills; later analysis has shown that this emphasis was at the expense of higher order thinking and problem solving. In teacher assessment, emphasis was on a series of fool-proof recipes (e.g. Madeline Hunter). Teaching also became reduced to a checklist that could be easily analyzed from contrived situations. Secondly, tests have become more high-stakes than they used to be and are more

significant in determining a student's future. In teacher education, certification was granted only to those who achieved certain cut-off scores. As a result, it has become even more crucial that tests measure what it is important for students to know and be able to do. Thirdly, educators in general have become aware of the costs of this high-stakes testing in imposing a narrower focus on curriculum and reducing the level of student learning because of the perceived need to teach only the content that is currently measured by tests. The fourth reason for current concerns is that, parallel to a more universal concern about the role of standardized tests, many educators doubt the usefulness of tests like the NTE and PPST, and, in fact, know that they cannot measure the complexity of teaching. As a result of this shift of emphasis, there is a need for assessment procedures and instruments that measure important concepts, applications and thinking skills for teachers. Worthen describes these procedures as those that provide information about important skills in a direct manner (Worthen, ).

If learning content, developing thinking skills, and fostering decision making abilities are major goals of teacher education, it is imperative that teacher educators develop tools and processes that allow assessment of the facility of that thinking and provide information beyond that revealed by objective tests. These tools must measure higher level thinking skills, and include tasks that require education students to reason at a sophisticated level and show the complexity of their thinking and problem solving in their responses (Worthen & Leopold, 1992). According to Nickerson (1989), a related goal is to make sure that educational outcomes and assessment are congruent. Frequently, students in teacher education programs are assessed on a course by course basis without concern to programmatic outcomes. It is crucial to develop assessment instruments that serve the final goals of education program, that focus on the kind of content, skills and processes that teacher educators consider essential, and that these instruments permit students to demonstrate competency on significant goals and using important information. Current assessment tools often emphasize basic, factual recall knowledge, without giving any indication of the degree to which students understand and can apply their knowledge in a classroom setting (Nickerson, 1989).

Using alternative forms of assessment in teacher education programs will help address these needs, since assessment of this nature represents a philosophy that addresses the very purposes of assessment (Travers, Elliot, & Kratochwill, 1993). The point of a constructivist assessment program of this nature is not only to provide information about isolated student skills but also to observe complexities of teaching in situations that parallel the real world. This approach requires that future teachers use thoughtful processes to indicate the understanding and application of teaching and learning concepts in a meaningful way. It emphasizes the use of performance directed activities such as exhibitions, portfolios, synthesis activities, and reflection that allow for transfer of information and integration of new knowledge into meaningful knowledge structures about teaching. Assessment tools that accomplish these goals would require students to represent their understandings of content and processes in a variety of ways.

While these techniques need to accommodate the individual, they must also include criteria for measureme and some standardization and maintain a degree of consistency that supports their reliability and validity to allow them some comparative value (Worthen & Leopold, 1992). Specific assessment tools with criteria that are useful, c and efficient, and that demonstrate reliability and validity must be established. It is essential that the assessmen instruments demonstrate effectiveness in terms that can relay meaningful information to the various audiences of

education (Petrosko, 1992). Teacher educators are faced with a challenge of validating the performance of teacher education candidates and balancing that requirement with the complex and often highly individual combination th elements. Therefore, assessment tools must be constructivist in order to encourage a wider range of depictions of knowledge, and allow teachers to assess the quality of responses to complex propositions, rather that to judge simpl whether a response is right or wrong (Herman, Aschbacher & Winters, 1992). It is also important for teachers to see students relate new conceptual understandings to their prior knowledge.

## ASSESSMENT PROGRAM DESCRIPTION

The teacher preparation program at South Dakota State includes coursework organized in three "Professior Semesters." Each Professional Semester includes integrated coursework and practical experiences in local schools an each experience, whether in university or public school classrooms, is tied to programmatic goals created from a Constructivist perspective. (A complete description of the teacher education program at South Dakota State Unive -SDSU- is available from the College of Education and Counseling.) Using the constructivist philosophy, SDSU cre six specific goals to organize courses and field experience. Each of the goals, modified to fit the needs of the teacher preparation program, were written using the National Board Standards as a guide. The six goals also includes sub-g that help to further identify skills accomplished by program graduates. (A sample of one of the goals and example individual questions keyed to the goal are attached and identified as Figure A.)

In order to assess the effectiveness of the program and to identify skills of program graduates, five instrumer were designed to assess effectiveness of teacher education graduates. These instruments, designed over time with multiple revisions and with participation of all program personnel, were used in this study to assess multiple dimensions of student performance using constructivist approaches. Each instrument was created to measure the six specific goals that represent the education department's understanding of skills and knowledge required for the beginning teacher (e.g. Leinhardt, 1992).

During the final semester of their professional preparation programs, students complete the first component the process, an Exit Exam. This exam is a scenario-based, multiple choice examination with all questions keyed to program goals. The scenarios were created to accurately represent probable field situations that graduates might fa and emphasize analysis and higher level thinking skills. In seminars with peers and education faculty, students dis and explain their choices thereby defining their professional perspectives. These seminars provide constructive feedback to students and give faculty information about student progress and the success of the program.

The second major component of the assessment process is the midterm and final observation summary instrum completed by the field-based supervisors, students, and cooperating teachers at the midpoint and end of the student teaching experience. This analysis form, which was created collaboratively by campus and field teachers, places tl goals and descriptors on a continuum to assess each student. Students, cooperating teachers, and university supervisc construct knowledge of the students' abilities in classroom settings and their abilities to apply theory into practice.

The third major component, the Portfolio, is begun at program entry and developed throughout the program study. Like the exit exam and the student teaching assessment, the portfolio is organized around the program goals. Each student prepares a portfolio that addresses the six goals in a manner that best represents their constructed idea the goals.

The Portfolio serves as a basis for the fourth major component, the Exit Interview/Exhibition. This culmina performance assessment is scheduled during final exam week and takes on the aura of a formal interview. Students a individually interviewed by a two member team consisting of education faculty, special methods faculty from the College of Arts and Sciences, and practicing teachers. The interview follows a proscribed pattern and includes opportunities for the students to demonstrate their expertise in the various goal areas.

The fifth component, the Professional Qualities Inventory, is used throughout the program to guide students the development of the professional skills they will need to be successful as teachers. This document may be comple by any faculty member, including field based supervisors, whenever a need for guidance is perceived. Students constr a personal knowledge of teaching that sometimes overlooks particular qualities not identified by programmatic goa national standards but essential to success in the classroom. The Professional Qualities Inventory allows these characteristics to be clarified and focused upon for needed improvement. Following a standardized procedure, the student is then given focused assistance in development of professional qualities.

The six program goals and their specific descriptors were created as a result of study of the literature on teac expertise (e.g. Chi, Glaser, & Farr, 1988) and the resulting multi-faceted assessment program was designed to measu the dynamic of teaching through a variety of means. Each of the instruments measures these goals in a unique way. multiple choice Exam measures the student's ability to apply program concepts to hypothetical situations; teacher Observations assess the entire dynamic of teaching; the Portfolio provides a comprehensive view of student accomplishments; the Exit Interview permits the student to demonstrate expertise in selected areas; and the Professional Qualities Inventory allows participants to focus on all professional skills and competencies.

By analyzing data gathered from a survey designed to measure preparedness of teachers as proscribed by th same six program goals, information was gathered about the graduates' perceptions of the strength of the program i preparing them to meet the complex demands of teaching. Results of this survey indicate that graduates of this new teacher education program have a better understanding of the holistic skills and knowledge required to be a teacher attached data sheet).

The structure provided by this integrated, goals-based program in which all components and all courses contribute to significant program outcomes, provides a more coherent and comprehensive way to assess professional development. Utilization of a variety of assessment tools contributes to this program by emphasizing the complexit and multi-dimensional nature of the profession. The results have provided the program graduates, education facult practicing teachers, and College of Arts and Science faculty, with a pool of information emphasizing the skills and development of expertise as it relates to the teaching profession. Campus and field teachers are able to supply a mo comprehensive evaluation of the students' skills and knowledge because they have a focus for guidance when workir with student teachers. The results of the entire assessment process provide individual students with a comprehensi summary of their strengths and areas requiring improvement. This information enables all faculty to make instructi and curricular revisions for program improvement. In addition, collaboration with public school teachers and unive faculty in arts and sciences in creating and implementing the assessment instruments has led to further innovation ir classrooms.

## DISCUSSION

Constructivism serves as an appropriate theme for the design of an assessment program used in teacher preparation. Three points serve to address the appropriateness of this approach. First, constructivism provides for coherent view of teaching, in order to measure the coherency of such a view, instruments need to follow suit. In order an assessment program to follow the constructivist philosophy, it needs to be consistent with instruction. The facult South Dakota State have designed an assessment program that is coherent and focused. Each of the six instruments u to assess student learning is keyed to six goals and require students to construct knowledge about themselves and abou teaching.

Second, constructivism contends that learners must be actively involved in their own representations of knowledge. Students completing the teacher preparation program at South Dakota State University build knowled structure that integrate new understandings of teaching and learning. For example, when they complete the 50-ques Exit Exam they provide feedback for discussion on selected questions. This feedback is used to construct alternative v of understanding skills related to the six goals. Individual students construct alternative views of looking at the sk necessary to become effective teachers and they also provide discussion information that can alter views of their pe and of the faculty. New knowledge is constantly evaluated and changes to fit specific situations.

Third, students benefit from integrated schematic structures in the learning process. The six goals and five instruments do just that; they integrate what teachers should know and should be able to do. Skills are not learned i isolation nor are they assessed in isolation. For example, when students are observed by Cooperating Teachers or University Supervisors, the evaluator looks at all skills necessary to perform at a high level of competency in the classroom. These skills include instruction, curriculum planning, classroom management, assessment of learner outcon and other abilities required to teach an effective lesson. Each of these skills cannot be evaluated in isolation.

The constructivist teacher preparation program in place at South Dakota State University assesses the developmental process of each student by identifying prior knowledge, diagnosing strengths, needs, and difficulties serves as a base for instructional decision making for both the teacher education student and the teacher education faculty. The emphasis is placed on the achievement of six significant outcomes, identified as program goals, by usin holistic, coherent and multi-faceted approach to the assessment of effective teaching through the use of five instruments that measure the outcomes in different ways.

## RECOMMENDATIONS

In order to implement an assessment program that is unified and coherent, we suggest approaching the task u the following process. First, faculty members should select a theme/philosophy that is appropriate for the situati faculty, and students. This theme creates a conceptual framework to use as a base. Once the theme/philosophy is in place, the creation of comprehensive goal/outcome statements that are meaningful to the individual teacher preparation program can further focus the process. The National Board Standards are a helpful starting point, however, the language should parallel the scope and sequence of your program. Involvement of all constituents of teacher education is crucial for support, and also to assure the sense of the program. These common goals serve to un both the teaching and learning process and the assessment program. An additional benefit to the field is updated ar supported knowledge about national standards. A dialog about the essential skills of teaching is created among tea

educators in all settings. As a result teachers "buy in" to a teacher preparation program and contribute in a significa way to the development of the entire program. These benefits support the constructivist philosophy which provide a variety of perspectives in creation and implementation of a teacher education program.

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